



# NATURE'S ART

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DID YOU KNOW? Male and female turkey vultures are identical in appearance.

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## ALL ABOUT TURKEY VULTURES

Three different vultures are found in the US: the California Condor in Southern California; the Black Vulture in the east and deep south; and the Turkey Vulture all across the US and into Canada. Turkey Vultures found in the warmer areas, are year-round residents, but many migrate to Central and South America for the winter. Of those that migrate, many will head south with the Autumnal Equinox and return in the spring on the Vernal Equinox, quite often on the exact day

The Turkey Vulture's scientific name, *Cathartes aura*, means "pacifier" or "cleanser." The Cherokee Nation of the U.S. gave the bird the honorific "peace eagle," because, unlike eagles, Turkey Vultures do not kill.

Turkey Vultures are family oriented. A roost is a group of vultures living together and sleeping at night in a tall tree. Some roosts are known to be 100+ years old (the same family of vultures using the same tree or trees for home for many generations). They seem to like the warmth of human company. Many roosts are located near human habitation, despite there being similar trees in more remote areas a short distance away.

Turkey Vultures live and work together, in cooperation and friendliness. They communicate with one another when they find something to eat. And when there is a big feast, they communicate with neighboring flocks in distant roosts.



DID YOU KNOW? Lacking strength in its tiny grasping claw, the Turkey Vulture does not and cannot kill. Also, its beak has neither the shape nor strength to tear into a fresh carcass. ©2008 Photograph provided by Hawk Mountain Sanctuary

## VULTURES - A View From Hawk Mountain Sanctuary

by Keith Bilstein

*Keith L. Bildstein, Ph. D., is Sarkis Acopian Director of Conservation Science at Hawk Mountain Sanctuary Acopian Center for Conservation Learning, where he directs the international internship program. His latest book is "Migrating raptors of the world: their ecology and conservation".*

Although I can tell you exactly where I saw my "first" Bald Eagle, I cannot do so for my "first" Turkey Vulture. Turkey Vultures simply were too common, too widespread, too "everywhere," when I was growing up for me to recall an initial encounter. Trying to remember my first Turkey Vulture is like trying to remember my first cloud.

Fifteen years of flight interpretation at Hawk Mountain Sanctuary in eastern Pennsylvania suggest I am not alone in my "avian retention deficit." Typically, when I point out a distant Turkey Vulture at the Sanctuary's South Lookout, a young voice in the crowd shouts back, "Oh it's just a Turkey Vulture... I see them in my back yard every day." And indeed many of us do. "Seeing" and "knowing," however are two very different things, and getting to know Turkey Vultures better is what I have been up to for the past five years.

One reason for our not knowing about Turkey Vultures is that they are just too

common. Separating "local birds" from "migrants" is confusing to some, and more than a few hawk watches in North America do not even attempt to count migrating vultures.

Another reason why many people shy away from vultures is that they urinate on their legs. Why they do so is not clear. Some people believe that urohidrosis--the technical terms for this socially unacceptable habit--is that it serves to cool the birds' legs; others, however, believe that it helps cleanse the legs of bacteria collected when vultures feed while standing in carcasses. Whatever the explanation, urine caked on aluminum bands can hobble and incapacitate a bird, and both Canada and the United States have prohibited placing leg bands on Turkey Vultures since the 1970s. As a result, we lack the rich hawkwatch and banding databases we have for other migratory raptors, and much of what we know about vulture migration remains anecdotal and suppositional.

Hawk Mountain Sanctuary believes that the time to save a species is while it is still common; that successful, functional populations of common species like Turkey Vultures merit protection just as much as endangered species, and

that rescuing the latter will mean little if, at the same time, we fail to protect the former. Although our approach may seem overly ambitious to some, a failure to follow it promises to burden us with a costly and never-ending cycle of rescuing one species after another, as human ignorance endangers each in turn. This, together with the fact that this "everywhere" bird is "everyone's" bird, makes our studies of Turkey Vulture movements a wise investment in the future of wildlife conservation.

### Migration Geography

In autumn, Turkey Vultures begin moving south across southern Canada

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## A View From Hawk Mountain Sanctuary

and the northern United States alone or in small groups. Shortly thereafter, many individuals coalesce into multi-hundred and, sometimes, multi-thousand bird flocks, particularly along major migration corridors.

Although the flight typically begins in August, individuals often interrupt their flights to feed for one or more days, and it is not until late September and October that most hawkwatches start to record significant movements. At Hawk Mountain Sanctuary, for example, most migrants are counted after 20 October, and major movements can occur well into November.

In eastern North America, the largest flights happen along the north shore of Lake Erie, where daily counts at hawkwatches can reach into the tens of thousands. The thickest action, however, occurs west of the Mississippi where a major migration bottleneck along the Gulf Coast of southern Veracruz, Mexico, produces an autumn flight of between two and three million vultures. Farther south, in Costa Rica and Panama, numbers thin a bit as some birds over-winter in Central America and others continue into South America.

We know that Canadian vultures sometimes migrate as far as Central and even South America because wing-tagged and satellite-tracked birds have been seen and followed there. Additional vultures captured and outfitted with satellite transmitters near Hawk Mountain have wintered as far south as southern Florida, and as far north as southeastern Pennsylvania and central New Jersey. One individual that over-wintered in Florida during its first winter went only as far as south as North Carolina during its second winter of tracking.

Overall, our findings suggest that vulture migration is extremely flexible overall, both among and within

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©2008 Photographs by John A. DiGiorgio (top) and Shawn P. Carey (bottom)

Turkey Vultures can soar for hours at high altitudes without ever flapping their wings and migrate across the continents with minimal energy output.



©2008 John A. DiGiorgio, Photographer

## FACTS AND STATS

**Size:** 25 to 32 inches long, with a wingspan around 6 feet. Healthy adults weigh approximately 6 lbs.

**Voice:** Have very few vocalization capabilities, like most other vultures, and can only utter hisses and grunts. They usually hiss when threatened. Grunts are commonly heard from hungry young, and adults in courtship.

**Diet/Feeding:** Includes both meat and plants. Unaggressive and non-confrontational, the Turkey Vulture will not feed on live prey, an occasional habit of its cousin the black vulture. With its excellent eyesight and highly developed sense of smell, they soar above the ground, searching for food.

**Flight:** Turkey Vultures fly with their wings in a dihedral (V-shape). Launching themselves from their perches only after the morning air has warmed, they circle upward, searching for pockets of rising warm air, or thermals. Once they have secured a thermal, they allow it to carry them upward in rising circles. Reaching the top of the thermal, they dive across the sky at speeds near 60 mph, losing altitude until they reach another thermal. All this is done without the need to flap.

**Nests:** Scratching out an indentation in the soil, nests are on the ground and in caves. Nests are often found in abandoned barns and sheds, which provide safe hiding places.

**Breeding:** One brood a year, consisting of 1 to 3 (but usually 2) blotchy-looking eggs. Both parents share the responsibilities of incubating (38 to 41 days) and caring for the brood. Young are covered in pure white down, and have dark grey faces.

**Life Cycle:** Young fledge 70 to 80 days after hatching. Immature fledglings still have darker heads, and can be confused with the black vulture, from a distance.

### **Why does the Turkey Vulture vomit?**

Having few natural predators, the Turkey Vulture's primary form of defense is vomiting. They do not "projectile vomit," but cough up a lump of semi-digested meat. This foul smelling substance deters most creatures. It will also sting if it gets into the offending animal's face or eyes.

### **Why does the Turkey Vulture urinate on its legs?**

Directing its urine right onto its legs serves two very important purposes. In the summer, wetting the legs cools the vulture, as the urine evaporates (The vulture cannot sweat like us). Urine contains strong acids from the vulture's digestive system, which kill any bacteria that may remain on the bird's legs from stepping in its meal.



©2008 John A. DiGiorgio, Photographer

**DID YOU KNOW?** There is an important purpose to the Turkey Vulture's bald head. When eating carrion, it must often stick its head inside the carcass to reach the meat. A feathery head would capture unwanted pieces of the meal, and the bacteria it hosts. After mealtime, the Turkey Vulture perches in the heat of the sun and whatever has managed to cling to their head will be baked off.

## TURKEY VULTURE SOCIETY

In addition to there being very little understanding of the Turkey Vulture, scientific knowledge is also limited.

The Turkey Vulture Society is a registered, scientific, not-for-profit, 501(c) (3) corporation. Its purpose is to promote scientific studies of the life habits and needs of the Turkey Vulture, to protect the vulture and its habitat, and to inform the interested public of the valuable and essential services this bird provides to mankind and to the environment.

One of the more important studies to be conducted concerns the proven ability of the vulture's digestive system to kill bacteria or virus in infected meat. The ability to disinfect rodent carcasses carrying Hantavirus will be tested. Of great significance to human medical research, there may also be vital information discovered for use in the event of biological warfare, acts of terrorism, or world wide epidemics.

For more information email: [VultureSociety@gmail.com](mailto:VultureSociety@gmail.com)

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## A View From Hawk Mountain Sanctuary

populations, and, sometimes, even within individuals. The extent to which such flexibility helps explain the species' remarkable success remains an open question.

### Fueling the flight

How Turkey Vultures fuel their migrations remains something of a mystery. In eastern North America individuals that migrate short-distances regularly feed en route, but long-distance migrants in the American West rarely do so, at least south of the United States border with Mexico. Premigratory fat loading certainly plays an important role, as does hyper-efficient soaring flight. To look at the "energy" question in detail, Hawk Mountain Research Associate and Cornell University graduate student, Jamie Mandel, fitted one of his birds with an internal heart-rate and core-body-temperature data logger in 2004. The results from this single individual suggest that, in eastern North America at least, the energetic costs of autumn migration are no greater than that of late-summer loafing, and that regular nighttime reductions in core body temperature help keep energy costs low at both times of year. The extent to which such adaptations help make the Turkey Vulture the most common of all avian scavengers remains unknown, but they certainly cannot hurt.

### Ecological consequences of vulture migration

One of the questions that often pops up when I tell people that two to three million Turkey Vultures shuttle between North and South America each year is "where do the migrants go when they reach the Neotropics?" The short answer appears to be "anywhere they want." Summer and winter surveys of vultures in central and eastern Panama, together with direct observations of individuals at carcasses in the llanos of western Venezuela, suggest that Turkey Vulture numbers there increase more than 4-fold in winter, and that physically larger northern migrants push their tropical counterparts into suboptimal habitats at that time of year.

### Where do we go from here?

Our preliminary findings have only whetted our appetites. Aside from expanding our wing-tagging and satellite-tracking work, Hawk Mountain is developing an intercontinental network of vulture survey routes, all with an eye to better understanding the migratory habits and ecological consequences of this abundant and widespread avian scavenger. Additional questions awaiting us include: Do the movements of first-year and subadult vultures differ from those of breeding adults? Does the arrival of Turkey Vultures on their wintering grounds in the Neotropics affect populations of Black Vultures? Do Turkey Vultures breeding in temperate southern South America migrate? And if so, where?

*To learn more about Turkey Vultures and their migrations visit the hawk mountain website at [www.hawkmountain.org](http://www.hawkmountain.org).*



DID YOU KNOW? Turkey Vultures will sometimes become attached to people. When injured and taken into rehab, he will become emotionally attached to his handler and follow him around and watch him.

(C) 2008 Photographs provided by Avian Wildlife Center

## BUZZ, the Lovable Vulture

by Giselle Chazotte Smisko

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Love is not the first word normally associated with Turkey Vultures. Yet, it is one I have heard uttered when people meet our resident "TV," Buzz. What possesses a stranger to become enamored of a bareheaded bird that feeds on carcasses and has other habits that even gross out a ten-year-old boy? Personality.

First, let me explain how Buzz came to be one of the Avian Wildlife Center's resident lecture birds. Our Center takes in injured wildlife with the goal of restoring the animal's health and returning it to the wild. Before I had a chance to see this vulture, I knew he was a cripple that would never go free. The caller described how the bird was tripping over a mangled wing and had been seen for days stumbling over the rocky hillside. Scavengers by nature, vultures grounded by injuries can survive long periods. The caller also witnessed other vultures coming down to this one. He was convinced they were delivering food. After capturing him, my suspicions were confirmed. I could palpate large calluses (growths of mending bone) where fractures had been. Without stabilization during

the healing process, the bones had grown around anything they could grab onto. Encasing blood vessels, nerves, tendons, and mending at odd angles, these bones were impossible to correct. Options were meager. Knowing the bird had suffered, but still had a strong will to live we delayed euthanasia. It could rest in one of our enclosures with easy meals for a few days. In that short period of time, this bird seemed to grasp his predicament and an option. Instead of panicking with our presence he showed a curiosity. This is unusual for a wild bird, especially an adult. Although we could not age him precisely, we knew by his red head and ivory-colored beak that he was past his first year. We knew by his vivid red color that he was not in shock. (A drop in blood pressure causes shocky adults to have pale heads.) And his eyes were bright and focusing on us. He had a thoughtful look. People joke about birds' brains. Scientific studies have even supported the jokes judging the small brains of birds to be incapable of the learning abilities of humans. But, when it comes to survival, we have much to learn from birds. Buzz earned his second chance in life.

We made the decision to try to train him for use in our educational programs and applied to the Federal and State governments for the necessary permits. Approval was granted, and

our work with him began. Our process in "taming" a bird is to take advantage of their natural tendencies, then adapt them for viewing. For example, an owl is comfortable perching on a branch, camouflaging itself as an appendage of the tree. We set them on a perch above eye level. Vultures also perch, but have some other habits with which we had to contend. Vultures excrete on their feet, coloring their red skin white. This habit is thought to cool the birds when temperatures rise. It is the reason that vultures cannot be banded on their legs. It also means that the traditional jesses placed on the feet to keep birds on a perch cannot be left on the vulture. The excrement will dry and cake on any band and lead to constriction. There is another wonderful adaptation that Buzz has often demonstrated to the audience's displeasure, the ability to regurgitate at will. It is a survival technique that aids vultures when gorging on a large meal on the ground. If they need to take flight quickly they can "lighten their load," allowing for a faster take-off. Even more charming is the fact that they can return to a warm meal the second time around.

By now you may be wondering what is appealing about this creature. That is where meeting Buzz makes all of the difference. The first impression is an appreciation of size, and he makes sure you notice.

# DISCOVERING NATURE



©2008 Photographs provided by the East Coast Vulture Festival

## THE EAST COAST VULTURE FESTIVAL

**Richard Dilks, Chairman of the East Coast Vulture Festival, is a life long resident of Wenonah, NJ. He also serves as Chairman of the Wenonah Environmental Commission and is active in the Gloucester County NJ Nature Club. For more information: [www.EastCoastVulturefestival.org](http://www.EastCoastVulturefestival.org)**

WHY a Vulture Fest? For several years, nearly 200 Turkey and Black Vultures have made Wenonah, NJ their winter home from November to April. Wenonah is a small residential community (1 square mile, pop. 2400) in northern Gloucester County, NJ, about 12 miles from Philadelphia, Pa. Each evening these nearly 200 Turkey and Black Vultures would return to Wenonah to form a communal roost in town (Their previous winter roost had been lost to development). Unlike some communities in the region, who have complained about the vultures being a nuisance or even a "threat", the people of Wenonah have welcomed the birds. They have become a part of the local culture and are celebrated. The first festival in March 2006 was an outstanding success and tickets sold out in 4 days.

The purpose of the East Coast Vulture Festival is not only to provide an evening of fun and entertainment, but to provide the opportunity to educate the public about the true nature of vultures – vultures play an important role in maintaining a healthy environment and vultures and people are compatible. Also, the festival provides the public the opportunity to discover the beauty of these noble creatures that soar with the grace of eagles. Festival proceeds are used to support environmental education.

This past year's celebration was sponsored by the Gloucester County Nature Club and the Wenonah Environmental Commission and celebrated vultures in new ways that engaged and entertained adults and young alike. Many of the programs were free. In addition to live song and dance performances, an evening roast, special activities and programs included a Vulture Day Children's Fair at the Wenonah Community Center (the historic railroad station). The Fair offered hands on vulture arts and crafts, games, story telling, educational

and vulture art displays, brief natural history talks and guided walks to observe the vultures and their roost.

The Center for Birds of Prey of Charleston, SC ([info@thecenterforbirdsofprey.org](mailto:info@thecenterforbirdsofprey.org)) was invited to present a special program. The Center's mission and primary focus is to identify and address vital environmental issues through avian medicine, educational, research and conservation initiatives. Their program at the Festival featured live birds including a black vulture, an owl, a falcon and several hawks.

The East Coast Vulture Festival also invited the Center for Birds of Prey to the area to provide special educational presentations at elementary schools in Camden, NJ. Funded through the generosity of the Campbell Soup Foundation, these presentations made possible, enriching experiences for young people that expand their awareness of the wonders of the natural world.

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